State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-338
Relating to Certification of New Motor Vehicles

GENERAL MOTORS CORPORATION

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Orders G-45-3 and G-45-4;

IT IS ORDERED AND RESOLVED: That 1986 model-year General Motors Corporation exhaust emission control systems are certified as described below for gasoline-powered passenger cars:

| Engine Family | Displacement Cubic Inches (Liters) | Exhaust Emission Control Systems (Special Features) |
|---|---|---|
| G4G3.8V8XEB4 | 181/231 (3.0/3.8) | Exhaust Gas Recirculation Three-Way Catalyst with Closed Loop (Electronic Fuel Injection) |

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The following are the emission standards for this engine family:

| Hydrocarbons Grams per Mile | Carbon Monoxide Grams per Mile | Nitrogen Oxides Grams per mile |
|---|---|---|
| 0.41 | 7.0 | 0.7 |

The following are the certification emission values for this engine family:

| Hydrocarbons Grams per Mile | Carbon Monoxide Grams per Mile | Nitrogen Oxides Grams per Mile |
|---|---|---|
| 0.32 | 2.0 | 0.7 |

BE IT FURTHER RESOLVED: That the listed models were certified to the optional NOx emission standard thereby making the vehicle manufacturer subject to Section 1960.1.5 of Title 13, California Administrative Code which includes recall liability for emission control components up to 7 years or 75,000 miles if found defective by the Executive Officer.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Gasoline-Powered Motor Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" (Title 13, California Administrative Code, Section 2290) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high altitude requirements and highway emission standards as stipulated in "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Tune-Up Label Specifications" (Title 13, California Administrative Code, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2035 et seq.).

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 3rd day of June, 1985.

K. D. Drachand, Chief
Mobile Source Division

# 1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer General Motors Corporation Executive Order No. A-6-338 Page 1

Engine Family G4G3.8V8XEB4 Evaporative Family 6B0-4A

Engine CID (Liters) - Type 231 (3.8) 181/231 (3.0/3.8)

ABBREVIATIONS

Ignition System
CA-Centrifugal Advance
EEC-Electronic Engine Control
EI-Electronic Ignition
ESAC-Electronic Spark Advance Control
VA-Vacuum Advance
VR-Vacuum Retard

Exhaust Emissions Control System
AIP-Air Injection-Pump
AIV-Air Injection-Valve
CL-Closed Loop
EGR-Exhaust Gas Recirculation
EM-Engine Modification
OC-Oxidation Catalyst System
TR-Thermal Reactor
TWC-Three Way Catalyst System

Headings
AIR COND-Air Conditioning
BB-Basic Body
BT-Body Type
DI-Diesel Injection
DIN-Diesel Injector Nozzles
DIV-Division
ECM-Electronic Control Module
ETW-Equivalent Test Weight
TLC-Tune-Up Label Code
TNS-Transmission
TM-Trim

Fuel System
CFI,CL,DID,DIP,EFI,MFI,TBI
nV-nVenturi Carburetor
VV-Variable Venturi

Special Features
CCV-Combustion Chamber Valve
CFI-Central Fuel Injection
DID-Diesel Injection-Direct
DIP-Diesel Injection-Prechamber
MFI-Mechanical Fuel Injection
TC-Turbocharged
TBI-Throttle Body Injection
EFI-Electronic Fuel Injection

| DIV | BB | TM | BT | MODEL NAME |
|---|---|---|---|---|
| 2 | | | | PONTIAC |
| | N | E | 27 | Grand Am Coupe |
| | | | 69 | Grand Am Sedan |
| | | V | 27 | Grand Am LE Coupe |
| | | | 69 | Gramd Am LE Sedan |
| | | W | 27 | Grand Am SE Coupe |
| | | | 69 | Grand Am SE Sedan |
| 3 | | | | OLDSMOBILE |
| | A | J | 19 | Cutlass Ciera LS Sedan |
| | | | 27 | Cutlass Ciera LS Coupe |
| | | | 37 | Cutlass Ciera S Coupe |
| | C | W | 11 | Ninety-Eight Regency Brougham Coupe |
| | | | 69 | Ninety-Eight Regency Brougham Sedan |
| | | X | 11 | Ninety-Eight Regency Coupe |
| | | | 69 | Ninety-Eight Regency Sedan |
| 3 | | | | OLDSMOBILE |
| | E | Z | 57 | Toronado Brougham Coupe |
| | H | N | 37 | Delta 88 Royale Coupe |
| | | | 69 | Delta 88 Royale Sedan |
| | | Y | 37 | Delta 88 Royale Brougham Coupe |
| | | | 69 | Delta 88 Royale Brougham Sedan |
| | N | F | 27 | Calais Coupe |
| | | | 69 | Calais Sedan |
| | | T | 27 | Calais Supreme Coupe |
| | | | 69 | Calais Supreme Sedan |

DRIVE AXLE: Front Wheel Drive

ISSUED: REVISIONS:

0116N

Form 1A

# 1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Manufacturer General Motors Corporation Executive Order No. A-6-338 Page 2

Engine Family G4G3.8V8XEB4 Evaporative Family 6B0-4A

Engine CID (Liters) - Type 231 (3.8) 181/231 (3.0/3.8)

| DIV | BB | TM | BT | MODEL NAME |
|---|---|---|---|---|
| 4 | | | | BUICK |
| | A | G | 19 | Century T Type Sedan |
| | | H | 19 | Century Custom Sedan |
| | | | 27 | Century Custom Coupe |
| | | | 35 | Century Custom Wagon |
| | | L | 19 | Century Limited Sedan |
| | | | 27 | Century Limited Coupe |
| | | | 35 | Century Estate Wagon |
| | C | F | 69 | Electra T Type 4 Dr Sedan |
| | | W | 11 | Electra Park Avenue 2 Dr Sedan |
| | | | 69 | Electra Park Avenue 4 Dr Sedan |
| | | X | 11 | Electra 380 2 Dr Sedan |
| | | | 69 | Electra 380 4 Dr Sedan |
| | E | Y | 57 | Riviera T Type Coupe |
| | | Z | 57 | Riviera Coupe |
| | H | P | 37 | LeSabre Custom Coupe |
| | | | 69 | LeSabre Custom Sedan |
| | | R | 37 | LeSabre Limited Coupe |
| | | | 69 | LeSabre Limited Sedan |
| | N | J | 27 | Somerset Custom Coupe |
| | | | 69 | Skylark Custom Sedan |
| | | K | 27 | Somerset T Type Coupe |
| | | M | 27 | Somerset Limited Coupe |
| | | | 69 | Skylark Limited Sedan |

DRIVE AXLE: Front Wheel Drive

ISSUED: REVISIONS:

0116N

1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
GASOLINE-FUELED PASSENGER CARS

Form 2

Manufacturer General Motors Corporation Executive Order No. A-6-338 Page 3

Engine Family G4G3.8V8XEB4 Exhaust Emission Control System CL (EFI) EGR-TWC

| ENG. CID | ENG. CODE | AIR COND | ECM PART NO. | RAIL & INJECTOR PART NO. | EGR VALVE PART NO. | ETW | DIV | B B | T M | BT | TNS | TLC | REV. NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 181 | 7 | W & WO | 16054694 | 25525040 | 17085910 | 3000 | 234 | N | | 27 | A-3 | BNK | |
| | | | | 25526958 | | | 3 | N | | 69 | | | |
| | 7A | | 16059814 | | | | | | | | | | E |
| | | | | | | 3125 | 2 4 | N | | 69 | | | B |
| | 8 | W | 16054704 | | 17086022 | 3500 | 34 | H | | 37 | A-4 | BNB | |
| | 8A | | 16060324 | | | | 34 | H | | 69 | | | G |
| | 12 | W & WO | 16043454 | | 17086704 | 3000 | 234 | N | | 27 | A-3 | BNK | |
| | | | | | | | 3 | N | | 69 | | | |
| | | | | | | 3125 | 2 4 | N | | 69 | | | B |
| 231 | 1 | W | 16054724 | 25525639 | 17086704 | 3625 | 34 | C | | 11 | A-4 | BGB | C |
| | 1A | | 16059144 | | | | 34 | C | | 69 | | | D |
| | 1B | | 16060374 | 25526959 | | | | | | | | | J |
| | 1C | | 16068334 | | | | | | | | | | |
| | 2,6, | W & | 16060384 | | | 3250 | 4 | A | H | 19 | | BGU | |
| | 2A,6A, | WO | | | | | 4 | A | L | 19 | | | F |
| | 2B,6B | | | | | | 4 | A | | 27 | | | H |
| | 2C,6C | | 16068344 | | | | | | | | | | J |
| | | | | | | 3375 | 3 | A | | 19 | | | |
| | | | | | | | 4 | A | G | 19 | | | |
| | | | | | | | 3 | A | | 27 | | | |
| | | | | | | | 3 | A | | 37 | | | |
| | | | | | | 3500 | 4 | A | | 35 | | | |
| | 14 | W | 16057774 | | | 3500 | 34 | H | | 37 | | BGB | A |
| | 14A | | 16060334 | | | | 34 | H | | 69 | | | |
| | 14B | | 16068314 | | | | | | | | | | J |
| | 15 | W | 16060344 | | | 3500 | 34 | H | | 37 | | | I |
| | | | | | | | 3 | H | N | 69 | | | |
| | | | | | | 3625 | 3 | H | Y | 69 | | | |
| | | | | | | | 4 | H | | 69 | | | |

Comments: See page one for abbreviations and evaporative emission family identification
Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment.

ISSUED: 06-03-85

REVISIONS: A. Engine code 3 deleted; engine code 14 added by RC 64-032 on 06-11-85. B. Updated 2N 69 models from 3000 to 3125 ETW on 06-14-85. C. Added 34 C 11 and 34 C 69 models by RC 64-042 on 06-24-85. D. Engine code 1A added by RC 64-079 on 08-12-85. E. Engine code 7A added by RC 64-115 on 11-07-85. F. Engine codes 2A and 6A added by RC 64-122 on 10-31-85. G. Engine code 8A added by RC 64-123 on 11-11-85. H. Engine codes 2B and 6B added by RC 64-137 on 01-10-86. I. Engine code 15 added by RC 64-150 on 02-27-86. J. Engine codes 1C, 2C, 6C and 14B added by RC 64-161 on 04-11-86.

# 1986 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
## GASOLINE-FUELED PASSENGER CARS

Manufacturer General Motors Corporation Executive Order No. A-6-338 Page 4

Engine Family G4G3.8V8XEB4 Exhaust Emission Control System CL (EFI) EGR-TWC

| ENG. CID | ENG. CODE | AIR COND | ECM PART NO. | RAIL & INJECTOR PART NO. | EGR VALVE PART NO. | ETW | DIV | B B | T M | BT | TNS | TLC | REV. NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 231 | 4 | W | 16055334 | 25525639 | 17086704 | 3500 | 34 | H | | 37 | A-4 | BGB | |
| | ~~4A,4B,~~ 4C | | ~~16060354~~ | 25526959 | | | 3 | H | N | 69 | | | CE G |
| | | | | | | ~~3625~~ | 3 | H | Y | ~~69~~ | | | D |
| | | | | | | | 4 | H | | 69 | | | |
| | ~~5~~ | | ~~16053734~~ | | | ~~3625~~ | 34 | E | | ~~57~~ | | | |
| | ~~5A~~ | | ~~16060414~~ | | | | | | | | | | C |
| | ~~5B~~ | | ~~16065104~~ | | | | | | | | | | F |
| | ~~5C~~ | | ~~16068364~~ | | | | | | | | | | G |
| | ~~9~~ | | ~~16054714~~ | | | ~~3500~~ | ~~34~~ | ~~H~~ | | ~~37~~ | | | |
| | ~~9A~~ | | ~~16059134~~ | | | | 34 | H | | 69 | | | B |
| | ~~9B~~ | | ~~16060364~~ | | | | | | | | | | C |
| | ~~9C~~ | | ~~16068324~~ | | | ~~3625~~ | ~~34~~ | ~~C~~ | | ~~11~~ | | | G |
| | | | | | | | 34 | C | | 69 | | | |
| | ~~10~~ | | ~~16053744~~ | | | ~~3625~~ | ~~34~~ | ~~E~~ | | ~~57~~ | | | A |
| | ~~10A~~ | | ~~16060404~~ | | | | | | | | | | C |
| | ~~10B~~ | | ~~16065094~~ | | | | | | | | | | F |
| | ~~10C~~ | | ~~16068354~~ | | | | | | | | | | G |
| | ~~11~~ | | ~~16045784~~ | | | ~~3625~~ | ~~34~~ | ~~E~~ | | ~~57~~ | | | |

Comments: See page one for abbreviations and evaporative emission family identification
Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment.

ISSUED: 06-03-85

REVISIONS: A. Added 3EZ57 models to engine code 10 by RC 64-049 on 07-03-85. B. Engine code 9A added by RC 64-079 on 08-12-85. C. Engine codes 4A, 5A, 9B and 10A added by RC 64-122 on 11-06-85. D. Updated 3HY69, 4HP69 and 4HR69 models from 3500 to 3625 ETW on 01-17-86. E. Engine code 4B added by RC 64-150 on 02-27-86. F. Engine codes 5B and 10B added by RC 64-157 on 03-17-86. G. Engine codes 4C, 5C, 9C and 10C added by RC 64-161 on 04-11-86.